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COST-EFFECTIVENESS OF APIXABAN VERSUS WARFARIN IN CHINESE PATIENTS WITH NON-VALVULAR ATRIAL FIBRILLATION

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OBJECTIVES: To evaluate the cost-effectiveness of apixaban versus warfarin in Chinese patients with non-valvular atrial fibrillation (NVAF) from the Hong Kong public institutional perspective.

METHODS: A developed Markov model incorporated with 12 health state transitions which was adapted for this cohort simulation study, and disease progression of NVAF was simulated in 1000 hypothetical patients treated with apixaban/warfarin. Risks of clinical events were based on the ARISTOTLE trial and were adjusted based on local International Normalized Ratio control (time in therapeutic range). Real-life inputs for the model, including demographic and clinical characteristics, post-event treatment patterns, and healthcare costs, were determined by a retrospective cohort of 40,569 incident patients retrieved from an electronic medical database across Hong Kong. Main outcome measurements were lifetime numbers of thromboembolic and bleeding events, quality-adjusted life years (QALYs) and direct healthcare cost. Treatment with incremental cost-effectiveness ratio (ICER) less than one local GDP per capita (USD33,534 in 2014) was considered cost-effective. Probabilistic sensitivity analysis was conducted at willingness-to-pay (WTP) thresholds of one and three times of local GDP per capita.

RESULTS: In the lifetime simulation, fewer numbers of thrombotic and bleeding events were estimated for apixaban group as compared to warfarin (584 versus 700 per 1000 patients), resulting in reduced event-related direct costs (USD9023 versus USD9834 per patient). The estimated ICER of apixaban was USD7,057/QALY at base-case analysis. The probability of apixaban being cost-effective alternative to warfarin as indicated by sensitivity analysis was 96% and 98% at WTP threshold of USD33,534 and 100,602 per QALY respectively.

CONCLUSIONS: In Hong Kong, apixaban is likely to be the cost-effective alternative to warfarin for stroke prophylaxis in patients with NVAF.